A Perinatal Intervention Program for Urban American Indians

Part 1: Design, Implementation, and Outcomes

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Abstract

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High infant mortality rates among American Indians are disproportionate to state statistics for other races and higher than the national average. These findings prompted a community health center in a large Midwestern city to create and provide an American Indian infant mortality reduction project in the early 1990s. Strategies for program implementation included networking with local organizations, communicating with reservation health clinics throughout the state, educating American Indian mothers and their community about factors contributing to American Indian infant mortality, and providing individual case management to American Indian women and infants. We offer this article for three reasons: This grant project was successful, disparity in rates of infant mortality among peoples of color continues, and a paucity of information exists about the health behaviors of American Indian women.

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Statement of Problem

For several decades, medical and social work professionals have been aware of the high rate of infant mortality that plagues American Indians. Data collected for 1987–1989 show that American Indian infants die more often before their first birthday than do non-American Indian babies in the United States, suffering a rate of 5.9 deaths/1,000 live births compared with 3.6 deaths/1,000 live births for all races (Indian Health Service, 1993). Furthermore, the State of Wisconsin reports one

of the highest rates of infant mortality in the U.S. The Indian Health Service area of Bemidji, the area in which Wisconsin is located, reported an infant mortality rate of 12.0 deaths/1,000 live births for 1987–1989 (Indian Health Service, 1993). The infant mortality rate for American Indians living in Milwaukee, WI, was 22.27 deaths per 1,000 live births from 1983–1986, more than double the rate for the white population in Milwaukee (Wisconsin Department of Health and Social Services, 1987).

A closer look at 1989 Wisconsin statistics reveals that mothers who had inadequate prenatal care had an above-average risk of infant death. The infant mortality rate for women who had no prenatal care was 59.4 deaths/1,000 live births (Wisconsin Department of Health and Social Services, 1990). Women who entered care in the third trimester lost 15.4 infants/1,000 births compared to 8.3/1,000 for those with first trimester entry (Wisconsin Department of Health and Social Services, 1990). In addition, 51% of all Wisconsin infant deaths in 1989 were low birth weight infants (less than 2,500 grams) (Wisconsin Department of Health and Social Services, 1990).

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The probability that a low birth weight infant would die during its first year was 18 times greater than for an infant who weighed 2,500 grams or more (Wisconsin Department of Health and Social Services, 1990). Low birth weight is more likely to occur with inadequate care or preterm labor. While 9% of Wisconsin women reported having premature labor in a previous pregnancy, the highest percentage of preterm labor for any race was reported by American Indians: 15% (Wisconsin Department of Health and Social Services, 1991).

These statistics indicate a high level of unmet needs in the American Indian population with regard to prenatal care. Furthermore, most professionals attribute American Indian postneonatal deaths to socio-economic factors rather than to birth-related causes such as low birth weight and birth anomalies. Clearly, a perinatal interven-

tion program was needed to address the high rate of American Indian infant mortality. The community health center was able to procure funding for a perinatal intervention program from two private sources. Grants were submitted to and awarded by the Robert Wood Johnson Foundation and the W. K. Kellogg Foundation.

Goals of the Perinatal Intervention Program

Three primary goals stated in the original program proposal guided activities during the three-year grant period. They were:

- To identify, track, and monitor the development of American Indian infants in this Midwestern city from birth through their first year of life;
- To increase the proportion of American Indian women in this Midwestern city who enter prenatal care early in their pregnancy; and
- To ensure continuity of care for those American Indian women who terminate or disrupt prenatal care due to migration between reservations and the city.

Program Design

Hiring of Staff

Few grant directives were required for project/program specifics. Timelines for the hiring of staff were developed, a particular number of American Indian women were expected to be enrolled in the perinatal intervention program, and directions existed for communication with reservations outside the city. The community health center's perinatal program manager, who also acted as project director, hired two program staff members: a nurse and an outreach worker. The nurse (first author) came to the project with 20 years of experience working with Northwestern and Southwestern American Indian tribes in the areas of labor, delivery, and public health nursing, and teaching Lamaze International childbirth education classes. The outreach worker brought the beliefs of her American Indian culture, the strengths provided therein, and networking capabilities.

Creation of the Perinatal Intervention Program

Once the outreach worker and nurse were on board, program design began. Staff beliefs in the mission of the program produced an energy that attracted the attention of both the 16 local American Indian agencies and the reservations of the state's six tribes. This interest was significant in that few tribes have historically been able to work together. In this case, the common bond of "healthy babies" was sufficient for us to gain entry to American Indian agencies, American Indian studies at a local university, and the American Indian reservations in the state. We talked about the program, conducted a needs assessment, and asked for both verbal support of the program and referral of Indian women. Multiple fliers were created and distributed to announce the program.

In agreement with American Indian tradition, a program dedication ceremony was planned and invitations were sent. The invitations' greetings were expressed in various tribal languages. Tribal dignitaries and American Indian agency directors attended the ceremony, which included smudging with cedar smoke, drumming songs, introducing staff, and serving a traditional feast of veni-

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son and wild rice. The program was now ready for its first patients.

The community health center's Women, Infants, and Children's (WIC) supplemental food program's storefront office advertised our free pregnancy testing and nurse counseling, along with referrals (as necessary) for socio-economic needs. Our WIC site offices were decorated with Indian sand paintings, dream catchers, mandelas, and Indian proverbs and were visually appealing places to visit. Toys and books made the area more inviting to children accompanying their mothers.

As patients slowly began to seek our services, we worked on the educational mission of the program to encourage earlier entry to prenatal care and the changing of health risk habits. The informational sheets we created had a "Did You Know . . . ?" approach in an attempt not to discredit the patient's knowledge of pregnancy.

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The use of the familiar cradleboard created an analogy for teaching that the womb needed to be a safe place for the baby to grow. In selecting a drawing of a cradleboard for this informational sheet, we were sorry to learn that each tribe had their own cradleboard design and that we would have to show favoritism to one tribe. We chose the largest of the state's six tribes. We also printed up wallet-sized cards that listed the signs and symptoms of preterm labor (see Figure 1; copies of other educational materials can be obtained by contacting the first author.)

my baby is due on _____

doctor or clinic telephone _____

hospital telephone _____

my name _____

**PRETERM LABOR
PREVENTION**

Know the warning signs of preterm labor*

- contractions of the uterus
- menstrual-like cramps—come and go or don't go away
- pelvic pressure—feels like the baby is pushing down; comes and goes
- low, dull backache—comes and goes or doesn't go away
- abdominal cramping—with or without diarrhea
- fluid leaking from vagina

*preterm labor is labor three or more weeks before your due date

Remember: Preterm labor is usually not painful. If you have any of the signs of preterm labor:

- lie down on your side for an hour
- drink two or three glasses of water or juice
- if the signs do not go away, or if you have fluid leaking from your vagina, call your doctor or clinic immediately

Tell the nurse or physician:

- your name
- when your baby is due
- what signs you are having
- how often your are having contractions, if you are having them

Figure 1 Wallet-sized Card Listing the Signs and Symptoms of Preterm Labor

These wallet cards were previously designed by Mary Lou Moore, RN, PhD, LCCE, FACCE.

Program Logo

Next came the decision for a program logo. The program staff talked to an Indian artist and asked for something that celebrated life and conveyed the idea that everyone is needed to make our babies safe. "Secure the Future" became our program's motto, but the making of a logo proved to be a challenge. The nurse considered the first logo draft beautiful and complete. The outreach worker, however, was hesitant about the inclusion of the sacred pipe. We set about gathering opinions and learned that indeed the pipe was considered too sacred to depict in a program logo. Another insight was that nothing seems to be universal among tribes. While owl feathers signify fortune in one tribe, they are considered omens of death in another and certainly could not be associated with a perinatal program. With the owl feathers changed and a woven basket painted over the pipe, we obtained consensus and a logo was born (see Figure 2).

Our logo was professionally printed on a map brochure that highlighted the perinatal intervention program and listed all 16 American Indian agencies as resources for Indians moving between the city and reservations. Next, the logo was printed onto various items chosen as incentives to reward program participation, early and continuous prenatal care, and health risk behavior changes. The ordered incentive items were delayed in arrival, but the promise of them was sufficient to spark additional interest because all program participants were living below poverty level. In time, the most popular incentive proved to be a screen printed T-shirt large enough to wear throughout the pregnancy and given in merit of first trimester entry to care. Another popular item was a suede pouch in which to carry medical appointment reminders, the perinatal intervention program staff members' business cards, bus fare, and insurance cards. Large plastic sipper cups to encourage increased hydration and prevent preterm labor also proved to be highly favored. Give-away items are consistent with American Indian tradition (for a list of the incentive schedule, see Table 1).

Program Implementation

Connecting with the American Indian Community

A logo to identify the program, location brochures, helpful and culturally sensitive staff, and incentives to attract

Figure 2 Logo Designed for Perinatal Intervention Program for Urban American Indians

Printed through grants for Mother/Baby Programs for American Indian Women and Children. Artist: Jone Stromberg.

word-of-mouth referrals each contributed to our successes. Having previously introduced the program and ourselves to each of the state's reservations' leaders and each of the local American Indian agencies, we were now encouraged to attend Indian community events such as powwows and ceremonies. The Indian community slowly learned about specific program objectives, including the need to (1) identify pregnancies early, (2) decrease the interval between diagnosis of pregnancy and initial maternity care visit, (3) increase the numbers of prenatal visits per patient, (4) provide health education (including topics on pregnancy, nutrition, preterm labor, smoking cessation, prepared childbirth, breastfeeding, immunizations, well-child checks, and infant safety), and (5) de-

Table 1 List of Incentive Items Rewarded to Mothers in a Perinatal Intervention Program for American Indians

First Trimester Pregnancy Test	T-shirt with logo
First Trimester Initial OB Visit	Cradleboard jewelry
Fourth Month OB Visit	Suede pouch
Fifth Month OB Visit	Sipper cup with logo
Sixth Month OB Visit	Bingo center chip with logo
Seventh Month OB Visit	Bingo wand (if 4 visits so far)
Eighth Month OB Visit	Bingo chips
34 Weeks OB Visit	Safety outlet plugs
36 Weeks OB Visit	Telefinder
37 Weeks OB Visit	Sleeper for infant
38 Weeks OB Visit	Diaper bag with logo
39 Weeks OB Visit	Frisbee with logo
40 Weeks OB Visit	Watch with logo (if 10 or more visits)
6 Weeks Postpartum OB Visit	Meat purchase coupon
2 Weeks Infant Well-child Check	Night light with logo
6 Weeks Infant Immunization	Magnetic picture frame
Lamaze Childbirth Education Classes	Watch or meat coupon

velop a system to insure uninterrupted prenatal care when traveling between city and reservation. We believed we could meet these objectives.

One eye-opening lesson came from our efforts to insure the objective of continuous prenatal care. The form developed to insure objective Number 5 (see above paragraph) encouraged collaboration among reservation clinics, the Indian women, and the community health center. It also emphasized the importance of prenatal care. Months went by before we learned that women enrolled in the program did not fit the nomadic lifestyle anticipated. Rather, if our women traveled to a reservation, they planned their visits to follow their prenatal appointments and returned in time for the next appointment. A number of women did move out of state during the program, but they did not come and go. Each woman who moved was assisted with referrals. Relative to prenatal care customs, we did learn that pregnancy was considered a time of health, that grandmothers had not gone for prenatal care, and that grandmothers had delivered large, healthy babies, thus negating the doctor's or midwife's instructions to come for regular care.

In an effort to overcome these attitudes, we made home visits to meet extended family and to make a plea for a change in prenatal custom and belief. We pointed out that American Indian infants were dying at excessive rates compared to White babies and that research

showed prenatal care to be an important safeguard. The discussions that followed related to feelings women had at medical appointments where providers “talked down” to patients or spoke in medical language the women could not understand. Patients voiced that they often felt stupid at appointments and preferred not to go. We offered to go with patients to appointments, reminded them of the incentives soon to be available, and informed agency maternity care providers of patient concerns.

Connecting with the American Indian Woman

Patient concerns were an integral part of each nurse visit with an American Indian woman. The nurse’s approach usually started with the patient’s needs of the day—always assessing for warning signs of preterm labor—and then the discussion evolved into something related to the gestational age of the fetus. Each patient received the preterm labor wallet card (previously mentioned), which listed signs and treatments. Patients experiencing signs and symptoms of preterm labor called to ask if their symptoms, consistent with their wallet card, needed follow-up care. These patients were sent to their hospital’s triage area for evaluation. The system worked well. No preterm, low birth weight, or very low birth weight babies were born to any woman who kept in contact with this program.

The American Indian mothers who had contact with this program were from all six Wisconsin tribes, as well as from out-of-state tribes. In a city nationally ranked near the top for teenage pregnancy rate, the nurse expected many of her clients to be teens. This turned out not to be the case. The women were primarily in their twenties, with an age range of 16 to 42 years. Approximately 85% were single at the time of conception, and most mothers had not completed high school.

Staying Connected

Contact with the perinatal intervention program occurred by (1) phone, (2) drop-in or scheduled visits to the nurse’s or outreach worker’s offices, (3) outreach programs such as WIC, (4) medical appointments, (5) program offerings to the community (e.g., Lamaze child-birth education classes) and (6) home visits. An office copy of a photo album displayed mother-baby photos

A home visit by the nurse often revealed why a family may not make a prenatal office appointment a first priority. Food, shelter, and safety had to be considered first. The nurse perceived a tangible new level of acceptance by patients following a visit to their homes.

of participating women from the program for would-be participants to see. We had each mother sign a photo-release form. (Photos presented throughout this article are samples from the program’s photo album.) Attempts were made to visit in the home of each participant prior to delivery, as well as postpartum. Lines of trust were established in these home visits. A visit often revealed why a family may not make a prenatal office appointment a first priority. Food, shelter, and safety had to be considered first. The nurse perceived a tangible new level of acceptance by patients following a visit to their homes.

We also attended medical appointments with those who considered appointments to be threatening. At other times, we went to scheduled medical appointments in the hope of seeing a long sought-after patient. Often, the medical office called us to ask if we could follow up a missed medical appointment and help get the patient rescheduled.

No preterm, low birth weight, or very low birth weight babies were born to any woman who kept in contact with the program detailed in this article.

Lamaze Prepared Childbirth Classes

The concept of no-shows and rescheduling was prevalent in our Lamaze childbirth education classes, as well. Again, even if a patient wanted to come, it could not always be a priority for her. Frequently, a makeup session was held for someone who had missed a class. Initially, the nurse believed that this was not particularly efficient, but found that teaching one-on-one was productive for two main reasons: Information conducive to positive birthing experiences was imparted, and we learned that patients really preferred one-on-one time with the educator versus multiple-participant class sessions. Women reported carry-over feelings from student days of poor self-image and fears of inadequacy associated with classes and school.

The nurse rarely knew if someone was making a private class appointment that would turn into a series of appointments or if the session would be a one-time encounter. Childbirth educators can appreciate the dilemma of having to decide what was considered *the* most essential components of a 12-hour class series, if such an appointment was the only encounter. Clients' experiences with birth were discussed and sometimes their

perceptions were reframed. For example, in relating to the physical nature of birth being likened to an Olympic or marathon athletic event, clients were asked to describe one challenging or demanding thing they had done in their lives. The skills the client related were formulated into a response to a contraction, in which she could utilize a strength she already knew she possessed.

The nurse's interaction with a 19-year-old woman illustrates this point. The client answered that she had found it difficult to move away from family. She was able to identify several lessons she had learned as a result of the move. Among those lessons, she listed the following: (1) her decisions have consequences, (2) she has to count on herself more, (3) sometimes she has to do things on her own to see what strengths she possesses, (4) she can make herself happy with less, and (5) she can't always expect someone else to do things for her. The nurse confirmed that these lessons appeared to be a prescription for a successful labor, reinforcing strengths for labor that the client knew she had.

A childbirth atlas helped teach participants what was physically going to happen during labor. Simultaneously, they were told about how they would move through excitement, being busily engaged and focused on the work of labor, and then experiencing a brief period of doubting their ability as labor proceeded. Slow breathing and effleurage were demonstrated to the clients. Then they were asked to demonstrate slow breathing to the nurse. The clients were shown a pant-blow pattern for any contractions that seemed too strong for slow breathing. The session concluded with the following statements:

- Labor is a normal, natural, incredible journey for which your body is well designed;
- Study of this design can produce an attitude of trusting your body and expecting your body to handle the process; and
- Such an attitude will serve you well as you employ that which helped you to accomplish challenges and to feel secure in the past.

From this simple encounter, calls would be received from women who said, "I did just what you showed me and I got through it just fine."

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A medicine woman who was an elder in the community helped in the first Lamaze series taught for the program.

nity helped in the first Lamaze series taught for the program. (Oh, to have possessed the foresight to tape the series!) The medicine woman related multiple historical insights. We learned that the characteristic stoicism in labor, which the nurse had witnessed over 20 years, was directly related to women giving birth alone in the forest as soundlessly as possible in order not to attract any warring parties to their tribe's camps. A camp's location could be detected by sounds carried on the wind. Ropes were indeed tossed over tree branches to aid the squatting position for unassisted births. When the nurse could relate the research on enlarged pelvic outlet diameters accomplished through the squatting position, the medicine woman was duly pleased. Our patients were encouraged to seek companionship for labor, and, on several occasions, staff members had the opportunity to support the patient through all or part of a labor.

We tried to support our patients in all of their needs related to pregnancy and childbirth. One patient who wanted to attend a Lamaze series was a high school student and could not come to our usual evening classes due to distance, safety, and lack of family support. We asked her to brainstorm with us for a solution. The result was that her school principal was approached, and we were given permission to teach a series of classes in her high school. The series was held in a classroom adjacent to the school nurse's office on Friday afternoons at the close of the school day. At our request, the principal opened the class to any interested student who had a signed parent permission slip. Our usual attendance was three to four couples. These students were so committed to learning more about birth that they asked and received permission for us to hold an extra Friday afternoon class, even though it was the first day of Christmas vacation.

Cultural Connections

Patients who had no one to come to class or appointments with them and who seemed to be quite alone often

had heart-to-heart talks with the outreach worker. In those talks, evidence of the traditional ways and values that give strength were brought forth—values and ways well-modeled by that worker, herself. Usually a linking of the patient to lost cultural connections would occur. Evidence of this renewed bond was revealed in the patient's participation in traditional activities in the community, including Indian dancing and talking circles. This return to one's culture and roots seemed to produce the strength to keep trying to achieve good health habits.

We planned several activities to try to facilitate a closer bond to the patients' cultures. On the occasion of the American Cancer Society's "Great American Smoke-out," we held a potluck meal and talking circle. We prepared tobacco tie offerings and prayed blessings for each of the mothers and their unborn babies. We discussed the importance of and the how-to of smoking cessation and the dangers of secondhand smoke exposure. Whenever we came together for cultural activities, it was always a safe, comforting experience for patients and staff.

A program highlight combining food, togetherness, and cultural customs was planned for March of Dimes' "Healthy Habits, Healthy Babies Month." We titled the event "Celebrate Life." We wanted the American Indian community to join us and to recognize the achievements of these new mothers in the hope of empowering them even further. Family members and representatives of all 16 of the city's American Indian agencies came together for an evening of celebration. We enjoyed a potluck meal at the Indian community school, complete with complimentary Polaroid family photos, donated door prizes, and traditional singing. Then, the long-awaited, newly arrived program incentive items were awarded. Each program participant was called forward, and her efforts to meet program objectives were spoken aloud and applauded. There were hugs all around and faces were aglow as comments were overheard such as, "I did pregnancy right" and "I am the first one in my family to break the cycle of alcohol in pregnancy."

Outcomes of the Perinatal Intervention Program

Indeed, this group of American Indian women did change at-risk health behaviors while participating in the perinatal intervention program. Over the three-year period, American Indian mothers began prenatal care

earlier. In the first year, 61% entered in their first trimester; in the second year, 73% of mothers entered care in their first trimester (Zakhar, 1992).

American Indian mothers changed smoking and drinking habits. Forty-three clients were interviewed in person for 20–40 minutes; 16 mothers quit or reduced their smoking and seven quit or modified their drinking habits (Zakhar, 1992). Birth weights of babies whose mothers stayed in touch with the program were all above 5 lbs. 8 oz., with the lone exception of a twin (5 lbs.). The average weight of these babies was 7 lbs. 5oz. (N=82). Many American Indian mothers had over 10 prenatal visits, tried breastfeeding, kept postpartum appointments, and started a family planning method to reduce the number of close interval pregnancies. They took their children for immunizations on schedule, and 42 percent permitted Denver Developmental Screening Testing (DDST) on their babies in the second year of the program (Zakhar, 1992). Anticipatory guidance was given for babies who experienced delays on the DDST. Babies were referred to their pediatricians if lags repeated.

The most frequently noted change in behavior reported by American Indian mothers who were interviewed was a change in their eating habits or their children's diets. Twenty-three (out of 43) made a modification for nutrition (Zakhar, 1992). Other changes mentioned by the interviewees included taking better care of their health needs—physical and emotional—and changing methods of disciplining their children (reducing or eliminating yelling, spanking, and hitting) (Zakhar, 1992).

No infant deaths occurred to American Indian women who participated in the perinatal intervention program. Seven babies were lost in first trimester miscarriages and one in an ectopic pregnancy. There were two molar pregnancies and one baby was born with a congenital developmental delay defect. Two mothers experienced pre-eclampsia, but each was diagnosed early at a prenatal visit and the sequelae were kept to a minimum. Ten mothers underwent cesarean deliveries, and no one experienced gestational diabetes.

While the perinatal intervention program contributed to the births of healthy babies, staff observations confirmed the concerns of medical and social work professionals who believe socio-economic factors contribute to postnatal deaths. On postpartum visits, we noticed a

lack of nurturing skills displayed by parents. Mothers in this study were both primiparas and multiparas with multiparas being a slight majority. Even when mothers chose to breastfeed their babies, often there was little talking to or playing with them. Mothers expected babies to be happy in their beds or infant seats, to watch TV, or to play with what was provided. Interaction was sorely missing.

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We were able to refer American Indian parents to a nurturing program (developed by Dr. Stephen Bavolek) that teaches the meaning and importance of nurturing. Due to clients' interest, a nurturing program for American Indians was developed, and several perinatal intervention program participants became nurturing trainers. One program participant became a board member of a Head Start program.

Implications for Practice

The perinatal intervention program offers many implications for practice. Nursing case management, along with the design, implementation, and evaluation of a program for a minority culture, and perinatal education are all areas that will be addressed in Part 2 of this report. For present purposes, we will briefly address practice implications for childbirth educators; a more in-depth discussion will follow in Part 2.

We consider two points to be of particular importance. One is the necessity for cultural competence and sensitivity. A childbirth educator must seriously consider these criteria and take steps to achieve a certain level of knowledge about any minority population that is part of one's client service area. Part of this process is the acknowledgement by childbirth educators that a history of abuse has occurred. The participants in our perinatal intervention program come from a culture that has been mis-

treated by the federal government since the early days of our country, and their history affects American Indian's interactions with Whites. Additionally, many American Indian women have been victims of sexual abuse and domestic violence. Holding confidences and expecting to learn from the American Indian culture were both important in building trust and conveying sensitivity.

Implications for teaching childbirth education to a minority population with high rates of abuse and infant mortality extend to class content. Childbirth educators must review their materials for cultural sensitivity and incorporate topics relevant to their clients. In the urban American Indian community served by our perinatal intervention program, the issues that we determined to be relevant were prevention of preterm labor, the possibility of flashbacks to abuse while in labor, the facilitation of grieving/coping, and the need for client feedback and evaluation.

The second point that we consider to be important is the belief that communities at high-risk for infant mortality need the knowledge a childbirth educator can impart so that risks for mothers and babies are reduced. Questions to ask in exploring new educational services include the following: (1) Where is the population in need? (2) Is there a safe place to conduct a class series or one-on-one sessions? (3) What nonprofit agencies serve that population? (4) Will a nonprofit or other agency pay an independent childbirth educator to provide a service?

Childbirth educators can facilitate healthy babies and good births in an increasing variety of populations and circumstances with attention to cultural competence and sensitivity, along with an orientation to serving the customer.

A fee-for-service approach will also foster a mentality of "excellence in customer service" in a population already known to the childbirth educator. That is, the clients know the childbirth educator is a paid professional and will perhaps more readily avail themselves of any additional services. The service option of a home visit provides valuable insights for the childbirth educator and

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satisfies a client's personal birth-related needs, whether for privacy or a missed class. Home visits are a value-added service, whatever the population.

Childbirth educators can facilitate healthy babies and good births in an increasing variety of populations and circumstances with attention to cultural competence and sensitivity, along with an orientation to serving the customer. We learned to be flexible and creative to serve the urban American Indian community targeted by the perinatal intervention program. In a time of insufficient numbers of clients for independent childbirth educators and decreasing funds for health and social services, it seems reasonable to challenge childbirth educators to remain open-minded and resourceful so as to serve every mother and baby.

Conclusion

Two staff members of a modestly funded, central city health agency were able to recruit and provide perinatal services to American Indian women in Milwaukee, WI.

Increased numbers of targeted clients were served each succeeding project year. On average, 50 clients with new pregnancies were added per year. The caseload for the second and third years was approximately 100 families each, as families with infants were followed up to age one.

No infants were lost to these clients, which contributed to a reduction in statewide American Indian infant mortality rates. The largest number of American Indian infant deaths between 1987 and 1989 occurred in the two Wisconsin counties with the largest American Indian populations: Milwaukee and Menominee (Zakhar, 1992). (Menominee County is also the Menominee Indian Reservation.) The number of infant mortality deaths in 1991, slightly more than two years into the program, was six. This was less than half that of the year before and much lower than previous years (Zakhar, 1992).

These findings suggest that a perinatal intervention program targeted at urban American Indian women of childbearing age was successful in reducing infant losses to this community. More funding and more research are needed to address this problem.

Part 2 of this report will address further evaluation of the perinatal intervention program, as well as provide more in-depth discussion of implications for practice. It will be titled, "A Perinatal Intervention Program for Urban American Indians—Part 2: Evaluation and Implications for Practice."

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Study: Prenatal Care Use Differs Among Ethnic Groups

Mexican-American women and African-American women receive inadequate prenatal care more often than non-Hispanic white women, find the authors of a study published in the May 2001 issue of the *Maternal and Child Health Journal*. The study presents data collected from a nationally representative sample of 9,953 women who took part in the 1988 National Maternal and Infant Health Survey.

The study findings include the following:

- 25.0% of the Mexican-American women, 22.1% of the African-American women, and 10.4% of the non-Hispanic white women reported receiving inadequate prenatal care;
- The Mexican-American women were more likely than the African-American women and the non-Hispanic white women to report perceived financial and service barriers to prenatal care;
- When race/ethnicity was included as a covariate, the African-American women and Mexican-American women were more likely than the non-Hispanic white women to receive inadequate and intermediate prenatal care; and
- Inadequate prenatal care was more common among teenagers, women with little education, women who were unmarried, high-parity women, women with low incomes, and women who relied on government insurance, such as Medicaid, to pay for delivery.

The authors conclude that although women's receipt of public assistance and participation in WIC generally reduces the likelihood that they will receive inadequate prenatal care, "it continues to appear that the United States is characterized by a health care system in which equal access is, at best, not guaranteed and, at worst, stratified along race/ethnic and socioeconomic dimensions."

Frisbie, W.P., Echevarria, S., Hummer, R.A. (2001). Prenatal care utilization among non-Hispanic whites, African Americans, and Mexican Americans. *Maternal and Child Health Journal*, 5(1):21-33.

The above news brief appeared in the May 5, 2001, electronic issue of MCH Alert (www.ncemch.org/alert/alert050401.htm). MCH Alert is produced by the National Center for Education in Maternal and Child Health in Arlington, VA (www.ncemch.org/alert).